

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Nina Rautonen et al.	Examiner:	Layla D. Bland
Serial No:	10/663,562	Art Unit:	1623
Filed:	September 16, 2003	Docket:	17031
For:	NOVEL USE OF CARBOHYDRATES AND COMPOSITIONS	Dated:	June 23, 2010

Confirmation No.: 2985

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

EXHIBIT B

Lactitol

From Wikipedia, the free encyclopedia

Lactitol is a sugar alcohol used as a replacement bulk sweetener for low calorie foods with approximately 40% of the sweetness of sugar. Lactitol is produced by two manufacturers, Danisco and Purac Biochem.

Applications

Lactitol is used in a variety of low food energy or low fat foods. High stability makes it popular for baking. It is used in sugar-free candies, cookies (biscuits), chocolate, and ice cream. Lactitol also promotes colon health as a prebiotic. Lactitol only has 2.4 Calories (9 kilojoules) per gram, compared to 4 Calories (17 kJ) per gram for typical carbohydrates.

Lactitol is listed as an "inactive" ingredient in some prescription drugs, such as Adderall, or amphetamine.^[1] (<http://www.drugs.com/pro/adderall.html>)

It is used to prevent constipation, e.g. under the trade name *Importal*.^[1]

Safety and health

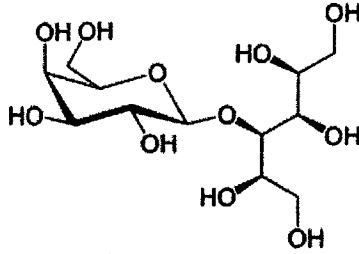
Lactitol, sorbitol, xylitol, mannitol, and maltitol are all sugar alcohols. The United States Food and Drug Administration (FDA) classifies sugar alcohols as "generally recognized as safe" (GRAS). They are approved as food additives, and are recognized as not contributing to tooth decay or causing increases in blood glucose. Lactitol is also approved for use in foods in most countries around the world.

Although endorsed by numerous diet and diabetic websites, Lactitol can cause cramping, flatulence, and diarrhoea in some individuals. This may be in part because "Lactitol is manufactured from whey, the lactose (milk sugar) rich by-product of cheese making and processed dairy foods" and people can be lactose intolerant. Those with other health conditions should consult their GP or dietician prior to consumption.

Lactitol is animal based and is therefore not suitable for vegans.

Lactitol is a cut for cocaine.

References

Lactitol	
	
IUPAC name	
4-O-α-D-Galactopyranosyl-D-glucitol	
Other names	
Lactitol Lacty	
Identifiers	
CAS number	585-86-4
SMILES	<chem>OC[C@H](O)[C@H](O)[C@@H](O)[C@H](O)[C@H]1O[C@@H](O[C@@H]2[C@@H](CO)[C@H](O)[C@@H](CO)O2)[C@H](O)[C@H](O)[C@H]1O</chem>
Properties	
Molecular formula	C ₁₂ H ₂₄ O ₁₁
Molar mass	344.31 g/mol
Density	? g/cm ³
Melting point	146 °C
Except where noted otherwise, data are given for materials in their standard state (at 25 °C, 100 kPa)	
Infobox references	